Facilities Management
Configuration & Document Control Manual

Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, Virginia

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Facilities Management
Configuration & Document Control Manual

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Summary of Changes

Change	Section	Date	Ver

Note: The Revision Number will change on the signature page (page 2) and all other pages in this document. This document will be approved by signature each time a revision is issued.

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ABBREVIATIONS, ACRONYMS, AND INITIALIZATIONS

AutoCAD	computer-aided design drafting software
CAD	computer-aided design
CD	configuration drawing
CM	configuration management
COTR	Contracting Officer's Technical Representative
f: drive	“Facilities” directory on the wff-loki server
FMB	Facilities Management Branch
GIS	Geographic Information System
GSFC	Goddard Space Flight Center
ID	identification
LAN	local area network
NASA	National Aeronautical and Space Administration
WFF	Wallops Flight Facility

Facilities Management
Configuration & Document Control Manual

1.0 Introduction

This manual establishes the configuration and document control procedures for personnel providing project planning, engineering design, construction management, and document control services to the Facilities Management Branch (FMB), NASA, Goddard Space Flight Center (GSFC), Wallops Flight Facility (WFF).

This manual is designed to be dynamic. It will be updated as needed with periodic revisions.

2.0 Configuration Identification

The FMB at Wallops Flight Facility has established the following items as configuration-controlled:

Building Configuration Drawings
Facility Site Maps
Underground Utility System Configuration Data

The as-built documentation process is critical to maintaining configuration control of these items. Therefore, this process is included in Section 3.0, Configuration Control Processes.

All configuration-controlled items are maintained in an AutoCAD format. Additionally, a copy of the configuration site map and underground utility data is maintained in the FMB Geographic Information System (GIS). This effort is accomplished through an electronic transfer and requires minimal additional effort. The GIS format allows the development of maps covering larger geographic areas than allowed by CAD, the linking of database information to the site or geographic data, and analysis utilizing the data.

2.1 Building Configuration Drawings

All building configuration drawings are stored on the F: drive of the wff-loki server under the "Finished/CONFIGDWG" subdirectory. Baseline building configuration drawings are currently under development; therefore, a list is not included in this section but a current list may be obtained by viewing the "Finished/CONFIGDWG" subdirectory.

2.2 Facility Site Maps

All configuration-controlled site maps are stored on the f: drive of the wff-loki server under the "Facilities/maps_isl" subdirectory for Wallops Island and Mainland, and under the "Facilities/maps_mb" subdirectory for Wallops Main Base.

Figure 1 is a grid map of Wallops Main Base. Figures 2 and 3 are grid maps of Wallops Island and Wallops Mainland. The drawing number for each grid's associated site map is shown on the grid. The drawing number is also the file name.

The configuration-controlled layers for these site maps are detailed in Appendix A.

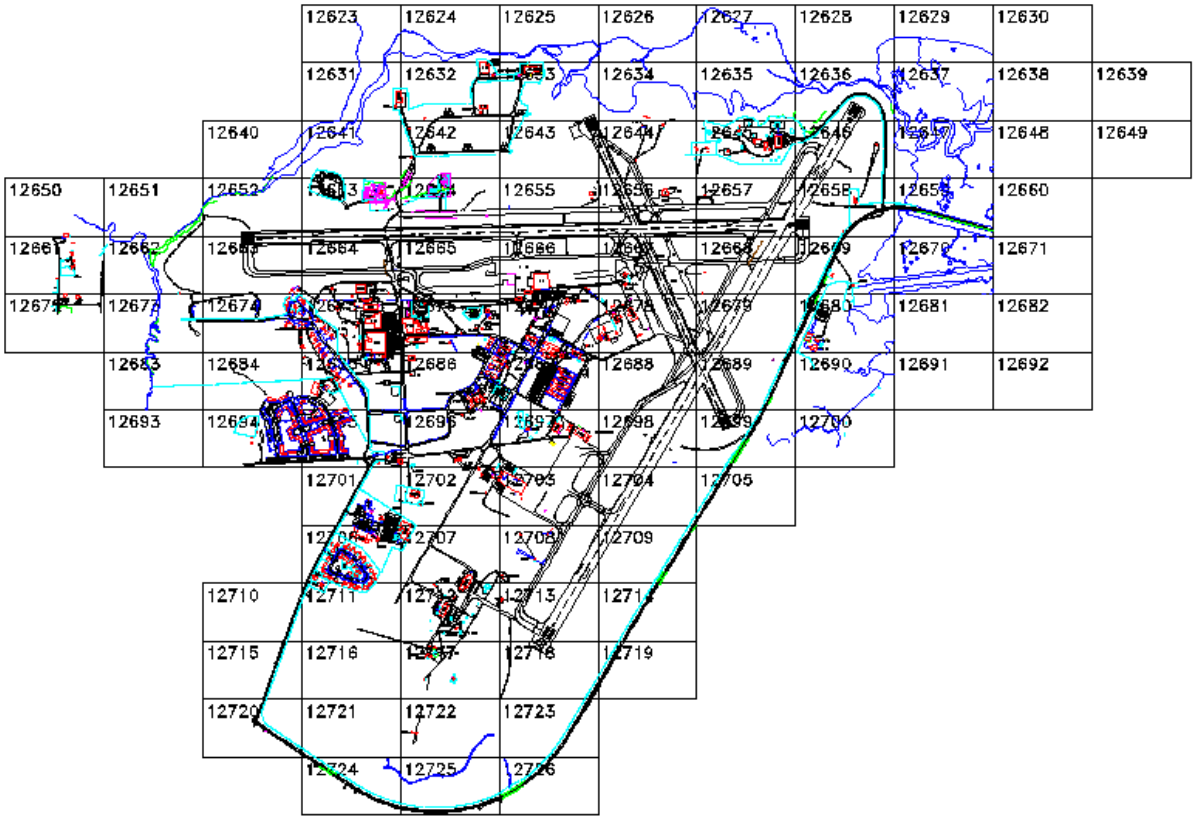

Figure 1. Locator Map for WFF Main Base Configuration Site Drawings

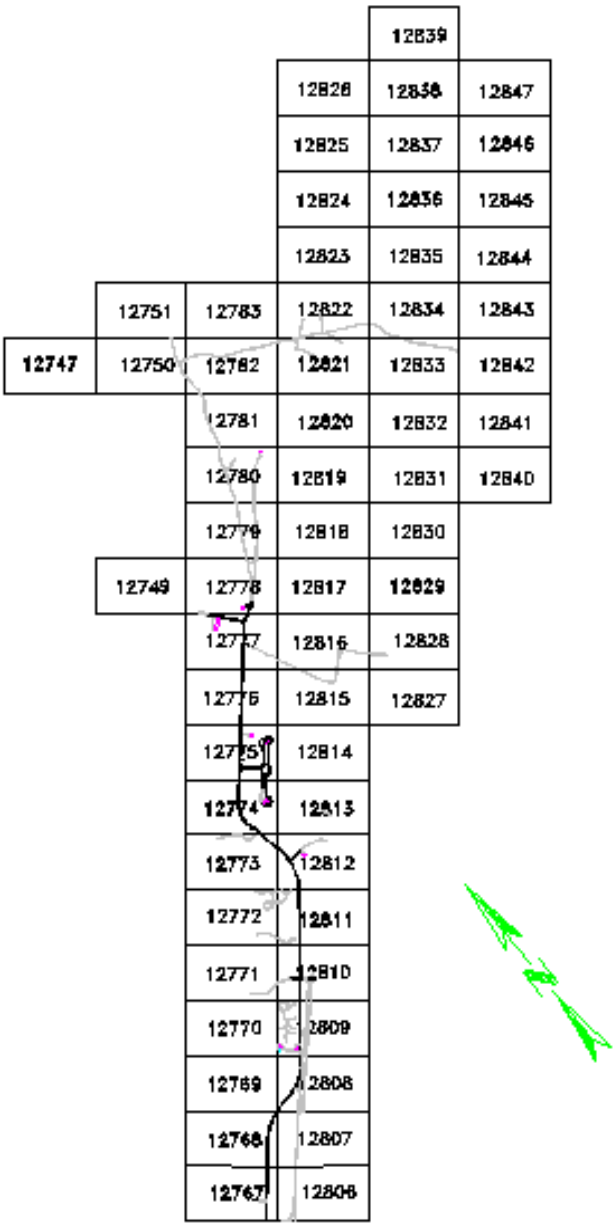

Figure 2. Locator Map for WFF North Island Configuration Site Drawings

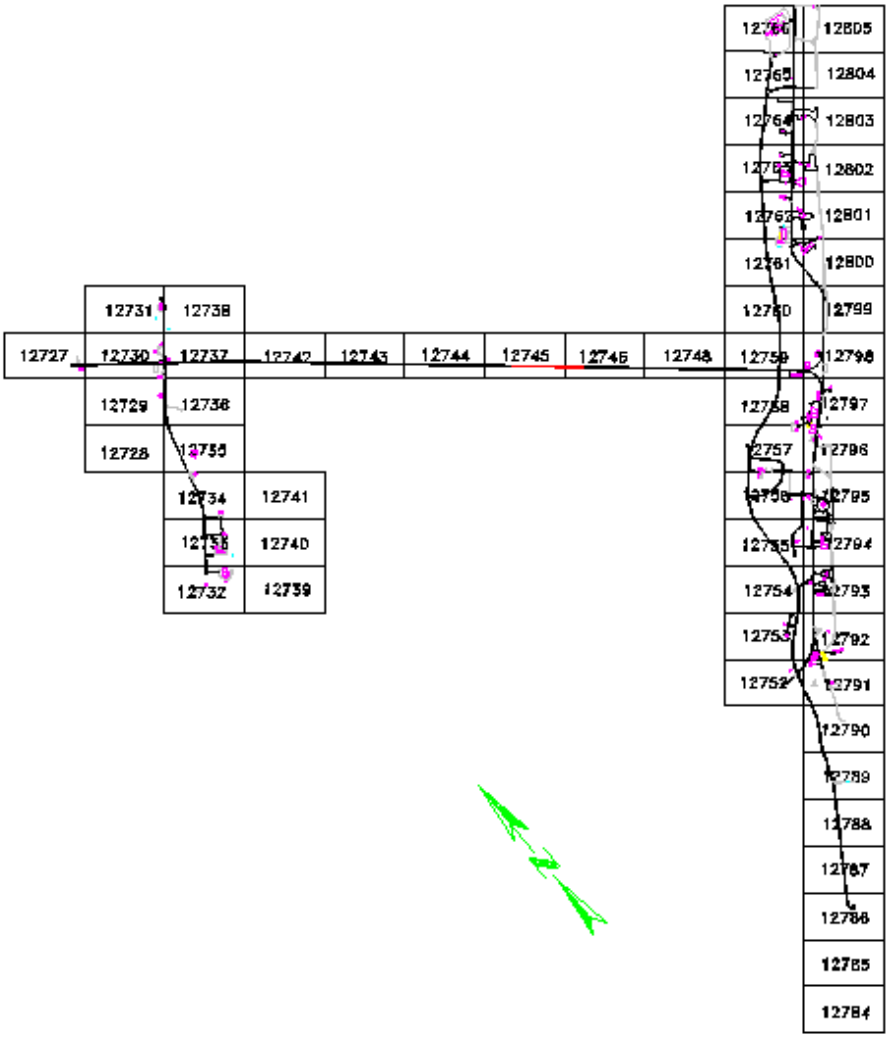

Figure 3. Locator Map for WFF Mainland and South Island Configuration Site Drawings

2.3 Underground Utility Systems Configuration Data

All underground utility geographic configuration data is stored on the configuration-controlled facility site maps on the f: drive of the wff-loki server under the “Facilities/maps_isl” subdirectory for Wallops Island and Mainland, and under the “Facilities/maps_mb” subdirectory for Wallops Main Base.

Tables 1 through 5 provide a list of the configuration-controlled utility layers associated with each utility system.

Table 1. CONFIGURATION-CONTROLLED ELECTRICAL SYSTEM LAYERS

Layer Name	Layer Description	Color	Line Type
ELECTRIC_CAPACITORS	Capacitors	7 (white)	CONTINUOUS
ELECTRIC_HANDHOLE	Hand Hole	2 (yellow)	CONTINUOUS
ELECTRIC_LIGHTS	Light Fixture	2 (yellow)	CONTINUOUS
ELECTRIC_LINE_BG	Below Ground Primary Power Line	1 (red)	HIDDEN2
ELECTRIC_MANHOLE	Manhole	1 (red)	CONTINUOUS
ELECTRIC_RELAYS	Relays	3 (green)	CONTINUOUS
ELECTRIC_RUNWAY_LIGHTS	Runway Lighting Fixture	2 (yellow)	CONTINUOUS
ELECTRIC_RUNWAY_POWER	Runway Lighting Underground Lines	1 (red)	CONTINUOUS
ELECTRIC_RUNWAY_SIGNS	Runway Illuminated Sign Fixture	1 (red)	CONTINUOUS
ELECTRIC_SECONDARY	Below Ground Secondary Power Line	1 (red)	CONTINUOUS
ELECTRIC_SWITCHES_STA	Switching Station	2 (yellow)	CONTINUOUS

Table 2. CONFIGURATION-CONTROLLED COMMUNICATIONS SYSTEM LAYERS

Layer Name	Layer Description	Color	Line Type
COMMUNICATION-COAX	Underground Coaxial Cable	4 (cyan)	CONTINUOUS
COMMUNICATION-FIBER	Underground Fiber-Optic Cable	1 (red)	CONTINUOUS
COMMUNICATION-ROLM	Underground Telephone Cable-ROLM System	7 (white)	CONTINUOUS
COMMUNICATION-TELEPHONE	Underground Telephone Cable-Other	2 (yellow)	DASHED
PEDESTAL	Telephone Cable Pedestals	214	CONTINUOUS

Table 3. CONFIGURATION-CONTROLLED WATER SYSTEM LAYERS

Layer Name	Layer Description	Color	Line Type
WATERLINE	Underground Potable Water Line	4 (cyan)	CONTINUOUS
WATERLINE-ABAND-TEXT	Underground Abandoned Line Text	5 (blue)	CONTINUOUS
WATERLINE-ABANDONED	Underground Abandoned Line	5 (blue)	CONTINUOUS
WATERLINE-HYD-ADDED	Fire Hydrant With No Position Accuracy	242	CONTINUOUS
WATERLINE-HYDRANT	Fire Hydrant From Aerial Survey	1 (red)	CONTINUOUS
WATERLINE-METER	Meter From Aerial Survey	150	CONTINUOUS
WATERLINE-METER-ADDED	Meter With No Position Accuracy	150	CONTINUOUS
WATERLINE-PIV	Post Indicator Valve From Aerial Survey	23	CONTINUOUS
WATERLINE-PIV-ADDED	Post Indicator Valve With No Position Accuracy	41	CONTINUOUS
WATERLINE-RAW	Underground Raw Water Line	4 (cyan)	DASHED
WATERLINE-RAW-ABAND	Underground Abandoned Raw Water Line	5 (blue)	DASHED
WATERLINE-TEXT	Text	4 (cyan)	CONTINUOUS
WATERLINE-VALVE	Valve From Aerial Survey	4 (cyan)	CONTINUOUS
WATERLINE-VALVE-ADD	Valve With No Position Accuracy	161	CONTINUOUS

Table 4. CONFIGURATION-CONTROLLED STORM WATER SYSTEM LAYERS

Layer Name	Layer Description	Color	Line Type
STORM	Underground Storm Water Line	1 (red)	CONTINUOUS
STORM-ABANDONED	Abandoned Underground Line	22	DASHED
STORM-ABANDONED-LAB	Abandoned Line Label	7 (white)	CONTINUOUS
STORM-CULVERT	Culvert From Aerial Survey	7 (white)	CONTINUOUS
STORM-CULVERT-ADD	Culvert With No Position Accuracy	7 (white)	CONTINUOUS
STORM-CULVERT-LABEL	Culvert Label	7 (white)	CONTINUOUS
STORM-DIAMETER-LAB	Pipe Diameter Label	1 (red)	CONTINUOUS
STORM-DISTANCE-LABEL	Distance Label	7 (white)	CONTINUOUS
STORM-DROPINLET	Drop Inlet From Aerial Survey	4 (cyan)	CONTINUOUS
STORM-DROPINLET-ADD	Drop Inlet With No Position Accuracy	2 (yellow)	CONTINUOUS
STORM-DROPINLET-LAB	Drop Inlet Label	4 (cyan)	CONTINUOUS
STORM-MANHOLE	Manhole From Aerial Survey	3 (green)	CONTINUOUS
STORM-MANHOLE-ADDED	Manhole With No Position Accuracy	2 (yellow)	CONTINUOUS
STORM-MANHOLE-LABEL	Manhole Label	3 (green)	CONTINUOUS
STORM-NO-ACCURACY	Line	2 (yellow)	CONTINUOUS
STORM-NOTE	Note	7 (white)	CONTINUOUS
STORM-OIL-H20-SEP-ADD	Oil/Water Separator No Position Accuracy	7 (white)	CONTINUOUS
STORM-WINGWALL-ADD	Wing Wall With No Position Accuracy	1 (red)	CONTINUOUS
STORM-WINGWALL-LAB	Wing Wall Label	1 (red)	CONTINUOUS

Table 5. CONFIGURATION-CONTROLLED SEWER SYSTEM LAYERS

Layer Name	Layer Description	Color	Line Type
SEWER-ABANDON	Abandoned Line	47	DASHED
SEWER-ABANDON-LABEL	Abandoned Line Label	47	CONTINUOUS
SEWER-CLEANOUT	Cleanout From Aerial Survey	7 (white)	CONTINUOUS
SEWER-CLEANOUT-ADD	Cleanout With No Accuracy	45	CONTINUOUS
SEWER-CLEANOUT-LABEL	Cleanout Label	7 (white)	CONTINUOUS
SEWER-DISTRIB-BOX	Distribution Box	45	CONTINUOUS
SEWER-DRAIN-FIELD	Drain Field	45	DASHED
SEWER-FM	Forced Main	37	CONTINUOUS
SEWER-FM-ABAND	Abandoned Forced Main	37	DASHED
SEWER-FM-ABAND-LABEL	Abandoned Forced Main Label	37	CONTINUOUS
SEWER-FM-LABEL	Forced Main Label	37	CONTINUOUS
SEWER-FM-PUMP-ADD	Forced Main Pump With No Accuracy	45	CONTINUOUS
SEWER-GRAVITY	Gravity Line	33	CONTINUOUS
SEWER-GRAVITY-LABEL	Gravity Line Label	33	CONTINUOUS
SEWER-MANHOLE	Manhole From Aerial Survey	45	CONTINUOUS
SEWER-MANHOLE-ADDED	Manhole With No Accuracy	45	CONTINUOUS
SEWER-MANHOLE-LABEL	Manhole Label	35	CONTINUOUS
SEWER-SEP-TANK-NOTE	Septic Tank Note	45	CONTINUOUS
SEWER-SEPTIC-TANK	Septic Tank	45	CONTINUOUS
SEWER-SLIPLINE-NOTE	Slip Line Note	47	CONTINUOUS
SEWER-VALVEVAULT-ADD	Valve Vault With No Accuracy	45	CONTINUOUS

3.0 Changing Configuration Controlled Drawings and Maps

This section establishes the control processes for making changes to the building configuration drawings, configuration site maps, and utility systems configuration drawings. It also establishes the procedures for completing as-built documentation.

The work flow tracking and documentation associated with these processes is accomplished through an electronic process. The primary tool utilized is the AutoManager WorkFlow software. Appendix B provides information on accessing the software and a set of instructions for utilizing AutoManager.

3.1 As-built Documentation

Figure 4 depicts the associated process flow chart for as-built documentation.

1. At project completion, the Project Manager receives the redlined design drawings from the COTR.

2. If there are no redlines because the project as-built is as-designed, the Project Manager will update the STATUS field on the AutoManager drawing records for the project drawings to AS-BUILT and the process will continue as detailed in step 11.

3. If there are redlined drawings, the Project Manager is responsible for submitting the redlined drawings to the Configuration Specialist.

4. The Configuration Specialist will update the affected AutoManager drawing records with the redlines received date.

5. The Configuration Specialist is responsible for making all as-built corrections to the design drawings. All as-built changes must be flagged on the appropriate drawing to allow easy recognition of changes. When completed, a note must be added to the revision block on the drawing that as-built corrections were incorporated.

6. The Configuration Specialist will update the AutoManager drawing record with the redlines incorporated date.

7. The Configuration Specialist will notify the Project Manager that as-built changes have been completed.

8. The Project Manager will then review as-built changes with discipline engineers and construction inspectors.

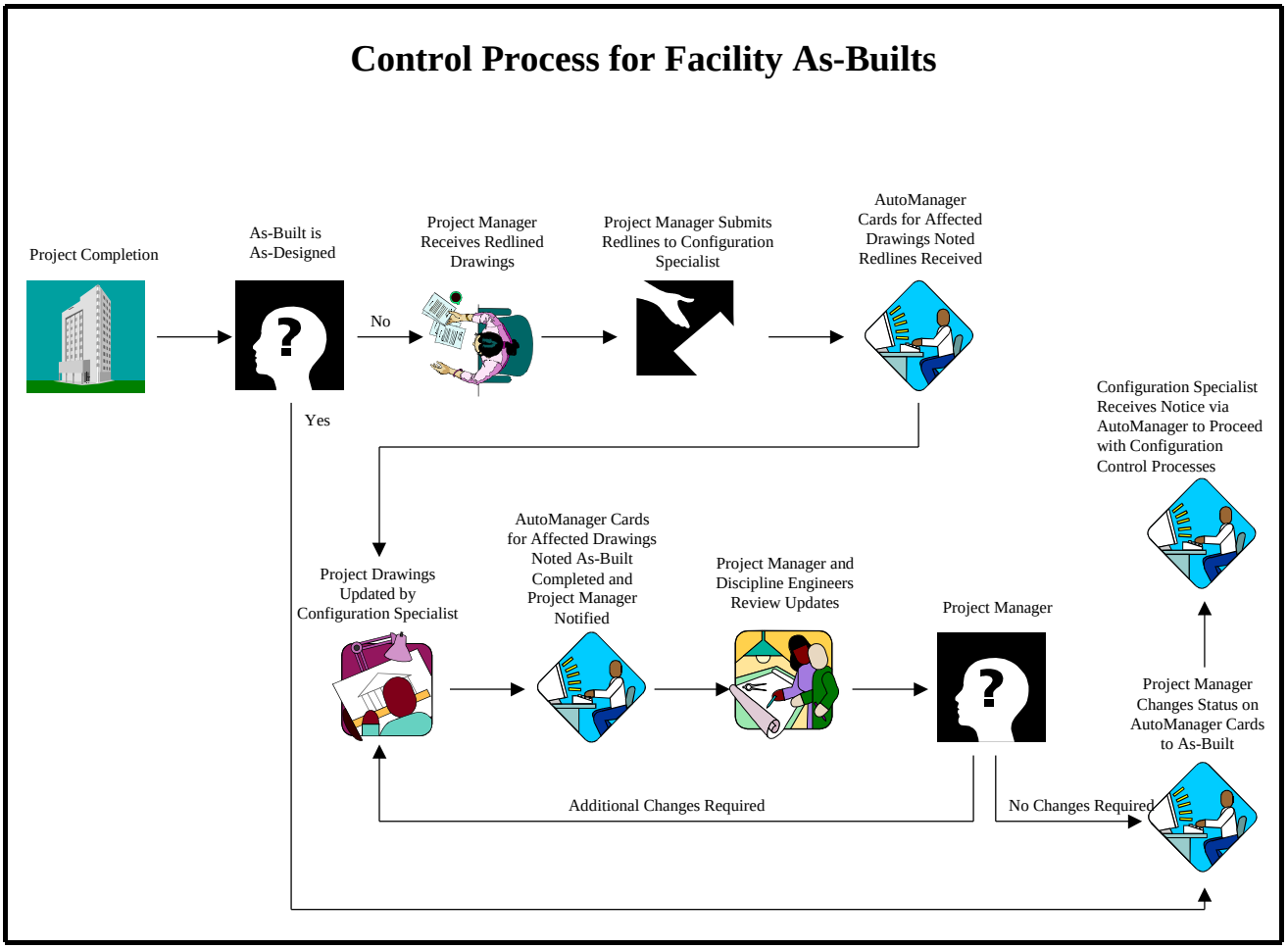

Figure 4. Control Process for Facility As-Builts

9. If additional changes are required, the Project Manager must return the marked up drawings to the Configuration Specialist for changes. The Configuration Specialist will once again follow step #3.

10. When all as-built changes are satisfactory to the Project Manager and discipline engineers, the Project Manager will update the AutoManager drawing record status to AS-BUILT.

11. When the STATUS field is updated to AS-BUILT, the Configuration Specialist will receive an automatic TO DO message from the AutoManager software stating that the as-built drawing information must be transferred to the configuration drawings (CDs).

12. The Configuration Specialist will determine which CDs require updating and will proceed with the appropriate process.

3.2 Building and Site Configuration Drawings

Figure 5 is a process flow chart for updating the building and site configuration drawings. The process is detailed below.

1. When the STATUS field on a drawing database card is updated to AS-BUILT by the Project Manager, the Configuration Specialist will receive an automatic TO DO message stating that the as-built drawing information must be transferred to the CDs.

2. The Configuration Specialist will add a note to the AutoManager cards of the affected CDs. The note will contain the project drawing numbers affecting the configuration drawings. The Configuration Specialist will delete the note upon the approved completion of the configuration updates.

3. The Configuration Specialist is responsible for updating the affected CDs and Space Utilization Drawings. All changes will be noted on the revision block on the drawing.

4. The Configuration Specialist will print copies of the updated CDs and Space Utilization Drawings and forward them to the Project Manager.

5. The Project Manager will approve all changes to the CDs and will note approval on the drawing revision block.

6. The Project Manager will return the approved drawings to the Configuration Specialist.

7. The Configuration Specialist will replace the paper copies of the CDs on file with the updated and approved drawings. The previous revision of the drawings will be filed in the drawing history files.

8. After approval, the Configuration Specialist is responsible for providing the Space Utilization Officer with the modified space data and for notifying the Real Property Officer of changes affecting real property values.

9. If the configuration change is to a site map or underground utility configuration data, the Configuration Specialist will send an electronic TO DO note through AutoManager to the GIS Programmer to electronically update the GIS data from the CAD configuration maps.

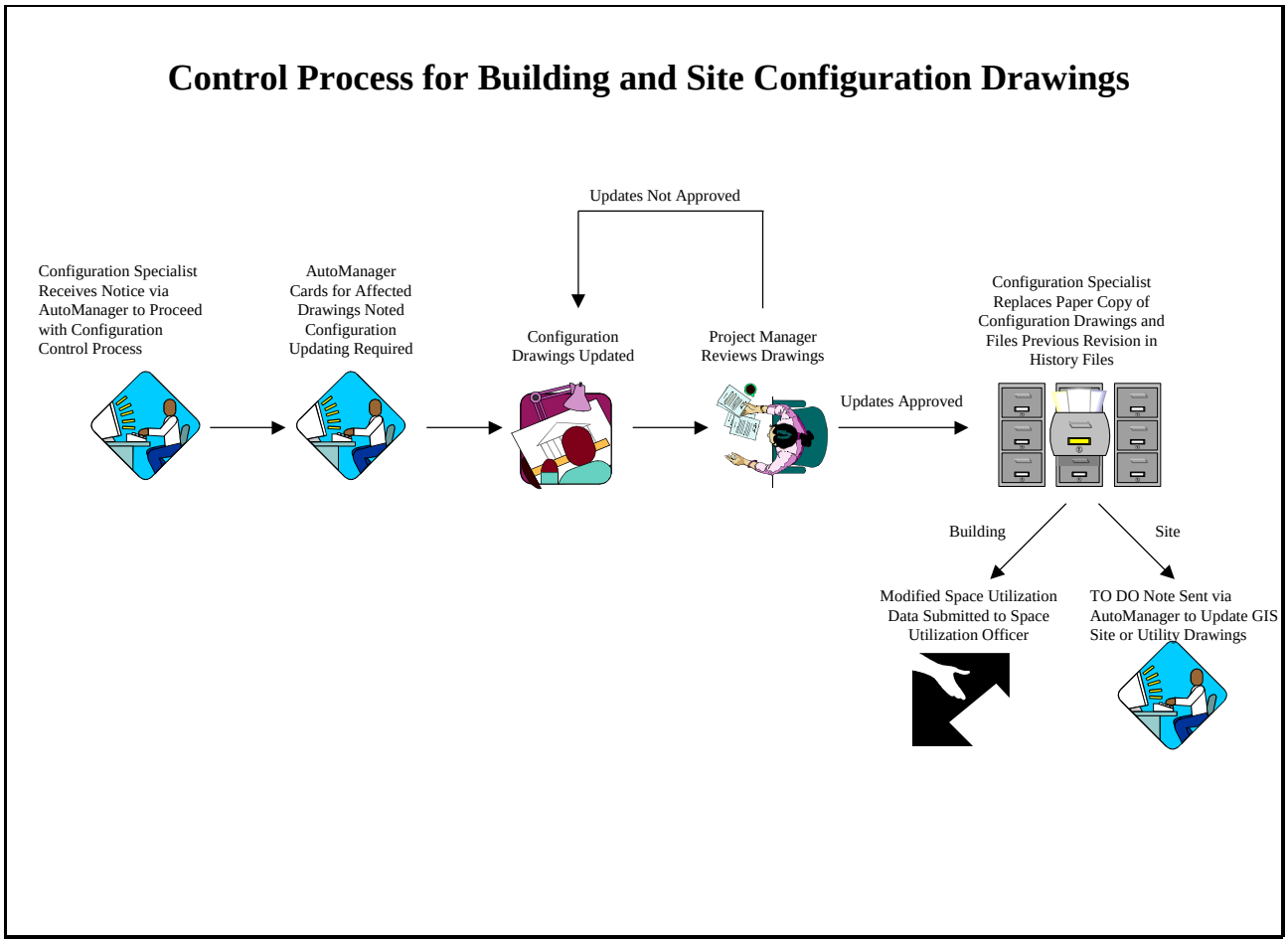

Figure 5. Control Process for Building and Site Configuration Drawings

3.3 Underground Utility System Configuration Drawings

Figure 6 depicts the control process for underground utility systems CDs.

1. Any modifications to the underground utility systems resulting from a project managed by the Facilities Engineering and Planning Group will be documented utilizing the building and site configuration drawing process as stated above.

2. Modifications resulting from operations and maintenance work will be tracked through the excavation permit process and documented as follows:

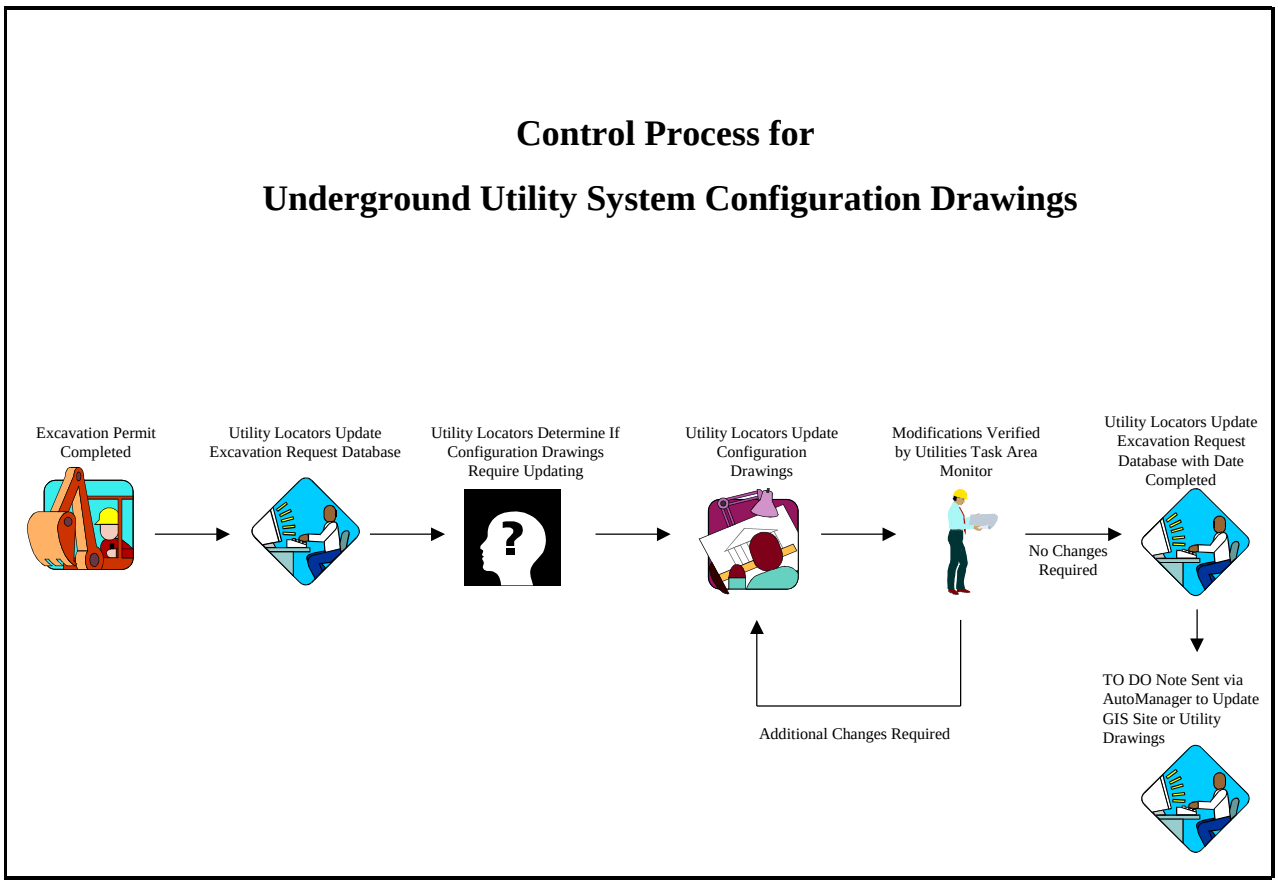

Figure 6. Control Process for Underground Utility Systems Configuration Drawings

a. The underground utility locators are responsible for maintaining an electronic database of excavation work request and determining if the work will affect the configuration drawings.

b. The utility locators are responsible for confirming work completion and validating location of new underground utilities.

c. The utility locators are responsible for updating the configuration drawings. A note must be added to the revision block on the drawings.

d. The utility locators will print paper copies of the drawings and forward them to the Operations and Maintenance Group's Task Area Monitor for the utility system.

e. The Task Area Monitor is responsible for verifying that modifications to the configuration drawings are correct and must approve by initialing the revision block on the drawings.

f. The Task Area Monitor will return the approved drawings to the utility locators.

g. The utility locators will give the paper copies of the approved configuration drawings to the Configuration Specialist who will file the approved drawings and move the previous version of the drawings to the drawing history files.

h. The utility locators must then update the excavation request database with the completion date for the configuration modifications and send an electronic TO DO note through AutoManager to the GIS Programmer to electronically update the GIS data from the CAD configuration maps.

4.0 Document and Data Control

4.1 Document Storage Location and Naming Conventions

4.1.1 Planning Files

All planning files are maintained in the Project Planner's office and labeled with an appropriate facility ID. (e.g., E-108 or Water System)

4.1.2 Drawings

4.1.2.1 Working Drawings

Drawings that have been submitted to the drafting department or are being worked on by an engineer but are not complete are stored on the f: drive of the wff-loki server under the "Facilities/Drawings" subdirectory and in a subdirectory created utilizing the project name.

The drawing name will consist of the first letter of the discipline and the sheet number (e.g., A1.dwg for architectural drawings, E1.dwg for an electrical drawing, C1.dwg for a civil drawing, and M1.dwg for a mechanical drawing).

The full path of the file should be displayed in the drawing number block located on the title block (e.g., f:\Facilities\Drawings\mods_to_havc_98\A1.dwg or f:\Facilities\Drawings\rehab_of_bldg_A41\E1.dwg). This will identify plots from these files as working drawings.

4.1.2.2 Approved and Completed Drawings

All drawings that have been completed, checked, and approved are stored on the f: drive on the wff-loki server under the "Finished" directory and under a subdirectory by ID, which is the same as the building name or the facility group (e.g., f:\Facilities\Finished\e108\21341.dwg or f:\Facilities\Finished\sewer\21351.dwg). The "f:\Facilities\Finished" directory is read-only to everyone except the Configuration Specialist; however, anyone can copy a drawing from this

drive to another location and edit it. Drawing names will consist of the same five-digit number automatically assigned by the AutoManager software.

Select the “228” database in AutoManager to perform a search of the associated database.

Several types of drawings fall into special categories and may have different naming conventions. They are described below.

4.1.2.3 Old Navy Facility Drawings

The WFF drawings from the Navy occupation period are found on the f: drive on the wff-loki server under the "Facilities\wffnavy" subdirectory. The file names are the associated microfiche card numbers. Select the “wffnavy” database in AutoManager to perform a search of the database.

4.1.2.4 Title Block Drawing

The standard NASA title block drawing, DTITLE.DWG, used by FMB is stored on the f: drive on the wff-loki server in the "Facilities\Finished\BORDER" subdirectory.

4.1.2.5 Detail Drawings

Standard detail drawings will be stored on the f: drive on the wff-loki server in the "f:\Facilities\Finished\DETAILS" subdirectory. Under this directory, there will be subdirectories for each discipline that will contain the appropriate detail drawings. These drawings will be saved with names that are as descriptive as possible to identify the drawings (e.g., f:\Finished\details\architectural\door.dwg).

4.1.2.6 A&E Firm Drawings

When a Project Manager receives completed drawings from an A&E firm, he will forward the drawings to the Configuration Specialist. The Configuration Specialist will complete a database record for each drawing, place it in the appropriate subdirectory under the "Facilities\Finished" subdirectory of the f: drive on the wff-loki server if the drawings are digital, or file the drawing by drawing number in the drawing flat files if they are paper drawings.

4.1.2.7 Drawing Revisions/Change Orders

No changes to the drawing storage location or name occur from drawing revisions or change orders unless a new sheet is created. The name of additional sheets will consist of the drawing number of the last drawing in the set followed by a letter of the alphabet. (e.g., “21351A” for the first sheet, “21351B” for the second sheet, and so forth).

All revisions to the original drawing must be flagged where appropriate on the drawing and noted in the drawing revision block of the drawing.

Once a drawing is modified, or a new drawing is created by a drawing revision or change order, the drawing will be sent to the Project Manager for approval. The Project Manager must notify the Configuration Specialist that the original drawing on the f: drive, "Facilities\Finished" subdirectory, on the wff-loki server is to be replaced.

4.1.2.8 As-builts

No changes to the drawing storage location or name occur from drawing as-built modifications unless a new sheet is created. The naming convention for additional sheets will be the same as for Drawing Revisions and Change Orders (see paragraph 4.1.2.7).

4.1.3 Specifications

4.1.3.1 WFF Customized Specifications Database

The local specifications for WFF are stored on the f:drive on the wff-loki server under the "Facilities\Finished" directory and in a subdirectory called “specs_local.”

4.1.3.2 Working Specifications

Working Specifications are stored on the f: drive on the wff-loki server in the "Facility\Drawings" directory under a subdirectory called “specs.” The file name is the project number.

4.1.3.3 Approved and Completed Specifications

Approved and completed specifications are stored on the f: drive on the wff-loki server under the "Facilities\Finished" directory and in the subdirectory called “specs.” The file name is the project number. The specification number is referenced on the AutoManager card for each drawing associated with that design project.

4.1.4 Design Files

4.1.4.1 Active Files

Active design files are maintained by each discipline engineer and labeled with the project number.

4.1.4.2 Construction Completed Files

Upon construction completion, design files will be given to the Project Manager by the discipline engineers. The Project Manager will give the complete set of project design files to the Configuration Specialist. The Configuration Specialist will update the AutoManager database for design files and place the file/files in the Central Engineering Files cabinet for funded projects.

4.1.4.3 Non-Funded/Design Completed Files

If the design is complete on a project but the project has not received funding, the Project Manager will give the Configuration Specialist the design files. The Configuration Specialist will update the AutoManager database for design files, label the file/files with the unique identification number assigned by the AutoManager system, and place the file/files in the Central Engineering Files cabinet for non-funded design files.

4.1.5 Construction Management Documentation

4.1.5.1 Inspector Logbooks

Active logbooks will be maintained by the project inspectors and labeled with the project number.

Once a construction project has been closed, the logbook(s) will be given to the COTR. The COTR will forward the logbook(s) for a given project to the Configuration Specialist. The Configuration Specialist will file the logbook(s) with the project contract files in Central Engineering Files and update the design file database with the date received.

4.1.5.2 Contract Files

All active contract files are maintained in the office of the FMB Facilities Assistant. They will be filed by the contract number and labeled with the contract name.

All files for closed out contracts are kept in the Central Engineering Files and filed by contract number and labeled with the contract name. The Configuration Specialist will update the the AutoManager database for contract files.

4.1.5.3 Submittals

Copies of all submittals, both approved and disapproved, are filed in the associated contract file after review by the Project Manager and the Contracting Officer's Technical Representative.

4.1.6 Maps

4.1.6.1 AutoCAD Site Maps

All site maps are configuration-controlled and are stored on the f: drive on the wff-loki server under the "Facilities/maps_isl" subdirectory for Wallops Island and Mainland, and under the "Facilities/maps_mb" subdirectory for Wallops Main Base.

Figure 1 is a grid map of Wallops Main Base. Figures 2 and 3 are grid maps of Wallops Island and Wallops Mainland. The file name for each grid's associated site map is shown on the grid.

4.1.6.2 GIS Maps

All GIS maps are stored on the f: drive on the wff-loki server under the "Facilities/map_GIS" directory. A subdirectory will be created for each map project.

4.2 Document Access

The Configuration Specialist manages all controlled documents.

Databases of all controlled documents can be searched utilizing the AutoManager software. Instructions for utilizing this software are found in Appendix A. The available databases are

WFF Drawings (includes CDs and CAD site maps)
Navy Drawings (WFF drawings from Navy Occupation/Microfiche Cards)
Planning Files
Design Files
Maps (GIS Maps)

All electronic documents are available for viewing through the WFF LAN utilizing the AutoManager software.

All paper documents may be viewed in the designated Central Engineering Files' room. Upon completion of a Document Request Form and with the approval of the Configuration Specialist, all documents except the paper drawings may be “checked out” for short periods of time. These documents will be retrieved from the file by the Configuration Specialist and refiled by the Configuration Specialist. Anyone may search the paper drawing files and remove a drawing from a drawer for viewing or copying. The original drawings are not to be removed from the file room and must be refiled by the Configuration Specialist.

4.3 Backups

All files on wff-loki server are backed up daily by the network administrator.

5.0 Configuration Status Accounting

This process is presented as a third process for correlation with ISO standards; however, it actually functions throughout all of the configuration management phases, identification, change, and verification. It is the process of documenting transactions and developing data that allow configuration verification. As defined by ISO 10007, it is:

> Formalized recording and reporting of the established configuration documents, the status of proposed changes, and the status of the implementation of approved changes.

5.1 As-built Documentation

The single tool utilized for this process as it applies to as-built documentation is the AutoManager Workflow software. As detailed in paragraph 3.1, as-built documentation and the authorization, status, and acceptance of all changes to design drawings are documented on the AutoManager data card for each drawing.

5.2 Building and Site Configuration Drawings

The AutoManager Workflow software is used for authorization and status tracking of building and site CDs. The revision block on the paper copy of the drawings is designated for acceptance. This process is detailed in paragraph 3.2, Building and Site Configuration Drawings.

5.3 Underground Utility System Configuration Drawings

The Configuration Specialist will follow methods detailed in paragraph 3.2 and status accounting detailed in paragraph 5.2 for changes to the underground utility system CDs resulting from a project managed by the Facilities Engineering and Planning Group.

Changes resulting from Operations and Maintenance Group projects are tracked through the excavation permit database. The revision block on the paper copy of the drawings is designated for acceptance. This process is detailed in paragraph 3.3, Underground Utility System Configuration Drawings.

6.0 Configuration Verification

In the ISO 10007 standard, configuration verification or “configuration auditing” is defined as follows:

> Examination to determine whether a configuration item conforms to its configuration documents.

The ISO standard addresses configuration control of “systems” development. In FMB, the items that are identified as configuration-controlled are facility documentation items, such as facility drawings and maps that must reflect the current status of the applicable facility. As it applies to the FMB configuration items, verification is the assurance of process compliance.

Utilizing a formally documented and controlled system for configuration management provides a measure of verification to ensure compliance with the configuration processes.

For further verification:

1. The Configuration Specialist will maintain a list of all current Engineering Group projects and will contact the appropriate project managers quarterly to ensure receipt of all available red-lined drawings.

2. The Configuration Specialist will verify, quarterly, that project managers have updated the STATUS in AutoManager to "AS-BUILT" for any projects completed as-designed. (Completion of the as-built process ensures an automatic electronic notification to the Configuration Specialist to update the appropriate configuration drawings.)

3. The Configuration Specialist will review the excavation permit database quarterly to ensure completion of the underground utility configuration documentation by the underground utility locators.

Appendix A – Configuration Controlled Site Map Layers

Layer Name	Layer Description	Color
ANT	Antenna/Satellite Dish	4 (cyan)
AIRPAV	Airfield Pavement	(white)
AIRLINE	Runway Markings	(white)
BBLDNG	Buildings	6 (magenta)
BRIDGE	Bridge	(red)
BRUSH	Brush Line	(green)
BUSH	Individual Bush	3 (green)
CANOPY	Canopy/Pavilion	(red)
CONTEXT	Contour Text	7 (white)
CREEK	Creek	4 (cyan)
DASHIND	Indefinite Indexed Contour	(magenta)
DASHINT	Indefinite Intermediate Contour	(brown)
DECK	Deck	6 (magenta)
DRTROAD	Dirt/Gravel Road	2 (yellow)
DTM	Digital Terrain Model Spot Elevation	54
FENCE	Fence	7 (white)
FLAG	Flag	7 (white)
FLOOD-LINE-100YR	100 Year Flood Line Delineation	(green)
GATE	Fence Gate	(white)
GPS-POINTS	GPS Survey Control Monuments	(red)
GRID	State Plane Grid Marks	3 (green)
GUARD	Guardrail	(green)
GUY	Guy Wire	7 (white)
HEADWALL	Headwall	(white)
HEDGE	Hedge/Shrub Row	3 (green)
HELI	Helicopter Pad	(white)
INDEX	Indexed Contour	1 (red)
INDEXD	Indexed Depression	1 (red)
INSTALLATION-TEXT	Installation Numbers	1 (red)
INTER	Intermediate Contour	36
INTERD	Intermediate Depression	36
LAMPOST	Lamp Post	2 (yellow)
MARSH	Marsh Symbol	(cyan)
MARSHOUT	Marsh Outline	(blue)
MISC-BOX	Miscellaneous Box	1 (red)
MISC-BLDG	Miscellaneous Building	(white)
MISC-POLE	Miscellaneous Pole	(white)
MISCLINE	Miscellaneous Line	7 (white)
NEATLINE	Sheet Neatline	7 (white)
OBSCURE-AREA	Obscure Area Outline	(green)
OHPIPE	Over Head Pipe	7 (white)
PAVEPARK	Paved Parking	2 (yellow)
PDITCH	Paved Ditch	7 (white)

Layer Name	Layer Description	Color
PDRIVE	Paved Driveway	7 (white)
PEDESTAL	Utility Pedestal	214
PILE	Pile	2 (yellow)
POLE-TEXT	Pole Numbers	7 (white)
POST	Post	4 (cyan)
PROAD	Paved Road	7 (white)
RAMP	Ramp/Loading Dock	(cyan)
RCURB	Road Curb	2 (yellow)
RECPAVED	Paved Recreation Area	7 (white)
RTW	Retaining Wall	6 (magenta)
RUN	Runway Outline	(white)
SIDEWALK	Sidewalk	6 (magenta)
SIGN	Single Sign	7 (white)
SIGNLINE	Billboard	4 (cyan)
SLAB	Slab (hard surface)	7 (white)
SOFTBREAK	Softbreak Line	54
SPOT	Spot Elevation and Text	7 (white)
STEPS	Steps	6 (magenta)
STORE	Open Storage Outline	7 (white)
SURFLINE	Surface Line	(white)
TANK	Above Ground Tank Outline	7 (white)
TEXT	Miscellaneous Annotation	3 (green)
TREE	Single Tree	3 (green)
TREES	Treeline	3 (green)
UNPAVPAK	Unpaved Parking	2 (yellow)
UPDRIVE	Unpaved Driveway	2 (yellow)
WALL	Wall (free standing)	6 (magenta)
WATER	Water Outline	(blue)
WATER-TEXT	Proper Names for Hydrology	(cyan)
WELL	Monitoring Well	(blue)
WETLAND	Wetland Delineation	(green)
WLINE	Parking White Lines	7 (white)

Appendix B – AutoManager Workflow Procedures

Introduction

AutoManager Workflow is a document management software designed to run on a Windows operating system. This software is used to catalog, organize, and maintain accurate records of documents such as drawings or specifications. It is also used for workflow management. It will enable each user to track documents during the designing and drafting stages of a project, move files to appropriate locations during different stages of the project, and archive drawings after the project is completed. This software is very powerful but still very easy to use. In the following sections, you should learn enough to perform searches on all drawings that are maintained by the Facilities Management Branch. Should you need additional help with the AutoManager Workflow, the Configuration Specialist within the Facilities Management Branch can assist you.

Logging onto AutoManager Workflow

Before a user can perform any searches or add new information in AutoManager Workflow, the user must log onto the software. This can be performed by double clicking on the AutoManager icon. After AutoManager is loaded, it will ask for your User Name and Password. After these two items are typed in the appropriate boxes, press the <Return> key. A user Name and Password can be obtained from the Configuration Specialist.

AutoManager Screens

AutoManager has two screens that are available for viewing. The first is the Card Screen and the second is the List Screen. The Card Screen shows all of the information about one particular document and the List Screen shows the entire list of documents that were found when a particular search was performed. The user may toggle between these two screens by pressing the F3 key.

When the Card Screen is being viewed, the user may scroll from one card to another by pressing the page up or page down keys on the keyboard.

When the List Screen is being viewed, the user may scan up or down the list to look for a particular document by pressing the up or down arrows on the keyboard.

While the user is in the Card Screen, notice the box that either displays the text "NO DOCUMENT AVAILABLE" or shows the AutoCAD drawing that is attached to the particular record. This is referred to as the Document Window. If there is a drawing that is attached to the card and the user wishes to view the drawing more closely, double click on the Document Window and a full screen of the drawing will appear. When the user wishes to return to the normal card, double clicking on the screen can perform it.

Searches in AutoManager

Searches are very easy to perform in AutoManager. When you log onto AutoManager, be sure that you are in the Card Screen. Pick the “Selection” pull-down menu. Once this menu is selected, pick the “Make Selections” menu. A dialog box will appear. You should select "Standard Search" and "Execute". At this time, the Card Screen should still be present but all fields should be empty. The user may search by as many or as few fields as he may desire. Please remember that the more information that is known and is filled into AutoManager about the desired drawing, the easier it is for the drawing to be found. Once all of the desired information is typed in or selected from the pull down menus, select the box at the upper left on the screen containing the green check mark. If the user already has a search stored (in most instances there is), the next window should ask you to choose one of the following, “All Cards”, “Selection”, “All Cards Adding to Selection”.

“All Cards” - will be from all records in the entire database.
“Selection” - will be from all records that are stored from the previous search.
“All Cards Adding to Selections” - will add current records found to previous search.

When the appropriate box is selected, select the <OK> box. At this time AutoManager will begin the search through all of the records in the database or the records from the previous search. When AutoManager has completed the search, it will list the matching records found in the list screen.

When a search is being performed and the user only knows a portion of the Title or Project he may double click on the desired field to display the “Extended Selection Criteria” box. Select the appropriate box from the list and complete the value box and press the <Return> key. A perfect example of this would be if the user only knows that the word “Causeway” should appear in the title of the drawing, the “Contains” box could be selected from the “Extended Selection Criteria” box and the word “causeway” could be typed in the value box. When the search has begun, AutoManager would search through all the records in the database for the drawings that would contain the word “Causeway”. This is very helpful to narrow down the searches so that the user doesn’t have to look at a very large list of records that AutoManager has found.